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			2178	

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Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/907,240	CHEN ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Kyle R. Stork	2178	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 06 September 2005.  
 2a) This action is FINAL.                    2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-82 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 1-11, 13-23, 25-35 and 37-82 is/are rejected.  
 7) Claim(s) 12, 24 and 36 is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- 1) Notice of References Cited (PTO-892)  
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)  
 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
     Paper No(s)/Mail Date \_\_\_\_\_
- 4) Interview Summary (PTO-413)  
     Paper No(s)/Mail Date. \_\_\_\_\_
- 5) Notice of Informal Patent Application (PTO-152)  
 6) Other: \_\_\_\_\_

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## DETAILED ACTION

1. This non-final office action is in response to the remarks filed 6 September 2005.

2. Claims 1-82 are pending. Claims 76-82 are newly added by the amendment.

Claims 1, 13, 25, 37, 42, 53, 64, and 75 are independent claims. The rejection of claims 6, 12, 18, 24, 30, 36, 40-41, and 43 are withdrawn as necessitated by the applicant's remarks.

### *Claim Objections*

3. Claims 12, 24, and 36 are objected to because of the following informalities: the claims recite that "the GUI tool **can** accept (line 1, emphasis added)," and "**can** also replicate (line 3, emphasis added)." These limitations fail to cause a functional change.

Appropriate correction is required.

### *Claim Rejections - 35 USC § 101*

4. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Section 2106 of the MPEP states:

(b) Nonfunctional Descriptive Material

Descriptive material that cannot exhibit any functional interrelationship with the way in which computing processes are performed does not constitute a statutory process, machine, manufacture or composition of matter and should be rejected under 35 U.S.C. 101. Thus, Office personnel should consider the claimed invention as a whole to determine whether the necessary functional interrelationship is provided.

Where certain types of descriptive material, such as music, literature, art, photographs and mere arrangements or compilations of facts or data, are merely stored so as to be read or outputted by a computer without creating any functional interrelationship, either as part of the stored data or as part of the computing processes performed by the computer, then such descriptive material alone does not impart functionality either to the data as so structured, or to the computer. Such "descriptive material" is not a process, machine, manufacture or composition of matter. (Data consists of facts, which become information when they are seen in context and convey meaning to people. Computers process data without any understanding of what that data represents. Computer

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Dictionary 210 (Microsoft Press, 2d ed. 1994).)

The policy that precludes the patenting of nonfunctional descriptive material would be easily frustrated if the same descriptive material could be patented when claimed as an article of manufacture. For example, music is commonly sold to consumers in the format of a compact disc. In such cases, the known compact disc acts as nothing more than a carrier for nonfunctional descriptive material. The purely nonfunctional descriptive material cannot alone provide the practical application for the manufacture.

Office personnel should be prudent in applying the foregoing guidance. Nonfunctional descriptive material may be claimed in combination with other functional descriptive multi-media material on a computer-readable medium to provide the necessary functional and structural interrelationship to satisfy the requirements of 35 U.S.C. 101. The presence of the claimed nonfunctional descriptive material is not necessarily determinative of nonstatutory subject matter. For example, a computer that recognizes a particular grouping of musical notes read from memory and upon recognizing that particular sequence, causes another defined series of notes to be played, defines a functional interrelationship among that data and the computing processes performed when utilizing that data, and as such is statutory because it implements a statutory process.

5. Claims 1-3, 5-7, 9, 37-40 are rejected under 35 U.S.C. 101 for being nonfunctional descriptive material. These claims fail to exhibit a statutory process, machine, manufacture, or composition of matter. The data structures are merely stored to be read without processing of the structure.

#### ***Claim Rejections - 35 USC § 112***

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 45-47, 56-58, and 67-69 remain rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The applicant attempts to further define "reversible" in the remarks filed 7 March 2005, by stating that, "the schema is reversible if it can be used both for deposit and retrieval." However, this definition in light of claim 45 is still indefinite. It is unclear whether the applicant intends to claim the ability to deposit data in a first format to data

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in a second format, while maintaining the ability to convert from the second format back to the first format; or whether the applicant intends to claim the ability to convert data from one format to a format suitable for storing in a data structure, while maintaining the ability to retrieve data from the data structure and converting the data back to a first format.

Claims 56 and 67 are rejected for being similar in scope to claim 45.

Claims 46-47, 57-58, and 68-69 are rejected for being based upon a rejected base claim.

#### ***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 1-2, 4-5, 7-8, 13-14, 16-17, 19-20, 25-26, 28-29, 31-32, 37-39, 44, 49, 53-55, 60, 64-66, 71, and 75 remain rejected and claims 76-79 are rejected under 35 U.S.C. 103(a) as being unpatentable over Xedi ("XML and EDI: Peaceful Co-Existence," 1999) in further view of Extol, Inc. ("XML: To Be Or Not To Be?" hereafter Extol).

As per independent claim 1, Xedi discloses a method for creating electronic communication, comprising executing the following operations in at least one data processing device:

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- First retrieving data from at least one type of data source into a first electronic format using at least one first annotated schema (page 12, Figure 8; pages 11-14: Here, the user can access data in EDI)
- Second retrieving data from the first electronic format into a second electronic format (page 12, Figure 8; pages 11-14: Here, the user can access data in EDI or XML language. If the first electronic format is EDI, then here the second format is XML. Similarly, if the first electronic format is XML, then here the second format is EDI)

Xedi fails to specifically disclose X12 EDI standard as an annotated schema. However, the X12 EDI standard is an annotated schema in that it maps retrieved data into documents that conform to the standard (Extol: page 4, paragraph 1: Here data is retrieved through user input; page 6, paragraph 2: Here, both X12 and EDIFACT are disclosed as mapping data into the layout for various standard documents; Xedi: page 13, paragraph 2).

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to have combined Xedi with the X12 EDI schema, since it would have allowed a user to transform data from the EDI format to XML in order to facilitate transactions between vendors.

As per dependent claim 2, Xedi discloses the method wherein the first electronic format comprises at least one XML document (page 11).

As per dependent claim 4, Xedi discloses the method wherein the first and second retrieving are done using a same type software engine applied first to the least one type of data source and then to the first electronic format (Figures 8-9).

As per dependent claim 5, Xedi discloses the method wherein the second electronic format belongs to the category of XML/EDI electronic document specification languages (page 11).

As per dependent claim 7, Xedi discloses the method wherein the at least one second annotated schema comprises:

- A single DTD for all possible document types within a single industrial electronic document specification language (page 10, last paragraph)
- Annotations for retrieving specifications for a desired document type from the first electronic format (page 11, last paragraph; Figure 9; pages 11-13)

As per dependent claim 8, the applicant discloses the limitations similar to those in claim 4. Claim 8 is thusly rejected under Xedi.

As per independent claim 13, the applicant discloses limitations similar to those in claim 1. Xedi further shows transmission of data over the internet (page 11, paragraphs 3-4: Here Xedi discloses sending XML documents over the internet to trading partners).

As per dependent claim 14, the applicant discloses the limitations similar to those in claim 2. Claim 14 is thusly rejected under Xedi.

As per dependent claim 16, the applicant discloses the limitations similar to those in claim 4. Claim 16 is thusly rejected under Xedi.

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As per dependent claim 17, the applicant discloses the limitations similar to those in claim 5. Claim 17 is thusly rejected under Xedi.

As per dependent claim 19, the applicant discloses the limitations similar to those in claim 7. Claim 19 is thusly rejected under Xedi.

As per dependent claim 20, the applicant discloses the limitations similar to those in claim 4. Claim 20 is thusly rejected under Xedi.

As per dependent claim 25, the applicant discloses the medium readable by a processing device and embodying code for performing the operations similar to those in claim 13. Claim 25 is thusly rejected under Xedi.

As per dependent claim 26, the applicant discloses the limitations similar to those in claim 2. Claim 26 is thusly rejected under Xedi.

As per dependent claim 28, the applicant discloses the limitations similar to those in claim 4. Claim 28 is thusly rejected under Xedi.

As per dependent claim 29, the applicant discloses the limitations similar to those in claim 5. Claim 29 is thusly rejected under Xedi.

As per dependent claim 31, the applicant discloses the limitations similar to those in claim 7. Claim 31 is thusly rejected under Xedi.

As per dependent claim 32, the applicant discloses the limitations similar to those in claim 4. Claim 32 is thusly rejected under Xedi.

As per independent claim 37, Xedi discloses at least one medium embodying code readable by at least one data processing device, the code comprising:

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- A universal schema adapted to create all possible document types suitable for use with a single electronic document specification language (page 10, last paragraph)
- Annotations adapted to guide retrieval of data from at least one type of data source to specify a particular output document in accordance with the universal schema (Figure 9; pages 12-13, Converting EDI and XML: Here, the translator XEDI transforms EDI messages into an XML document.)

As per dependent claim 38, the applicant discloses the limitations similar to those in claim 2. Claim 38 is thusly rejected under Xedi.

As per dependent claim 39, the applicant discloses the limitations similar to those in claim 6. Claim 39 is thusly rejected under Xedi.

As per independent claim 42, Xedi discloses a method for depositing data into at least one type of data source, the method comprising executing the following operations in a digital data processing device:

- Receiving a specification for deposit (Figure 8; pages 11-14)
- Processing the specification in accordance with an annotated schema (pages 12-13, Converting EDI and XML)
- Responsive to the processing, depositing data in at least one type of data source in accordance with a local format of that source (pages 11-114: Here, the document is converted from either XML or EDI to either XML or EDI in order for the receiver to process the request.)

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As per dependent claim 44, the applicant discloses the limitations similar to those in claim 2. Claim 44 is thusly rejected under Xedi.

As per dependent claim 49, the Xedi discloses the method wherein the processing comprises:

- First processing the specification in accordance with a universal annotated schema adapted to all document types supported by a given industrial electronic document specification language, in order to convert the specification into a first local format (page 10, last paragraph; page 12, Figure 8; pages 11-14)
- Second processing the first local format in accordance with a local annotated schema to convert the first local format to a second local format (page 12, Figure 8; pages 11-14)

As per independent claim 53, the applicant discloses the device similar to claim 13 and used to perform the method of claim 42. Claim 53 is thusly rejected under Xedi.

As per dependent claim 54, the applicant discloses the limitations similar to those in claim 6. Claim 54 is thusly rejected under Xedi.

As per dependent claim 55, the applicant discloses the limitations similar to those in claim 2. Claim 55 is thusly rejected under Xedi.

As per dependent claim 60, the applicant discloses the limitations similar to those in claim 49. Claim 60 is thusly rejected under Xedi.

As per independent claim 64, the applicant discloses the medium, readable by at least one data processing device embodying code for performing the method of claim 42. Claim 64 is thusly rejected under Xedi.

As per dependent claim 65, the applicant discloses the limitations similar to those in claim 6. Claim 65 is thusly rejected under Xedi.

As per dependent claim 66, the applicant discloses the limitations similar to those in claim 2. Claim 66 is thusly rejected under Xedi.

As per dependent claim 71, the applicant discloses the limitations similar to those in claim 49. Claim 71 is thusly rejected under Xedi.

As per independent claim 75, Xedi discloses a method comprising executing the following operation in at least one data processing device:

- Retrieving first data stored in at least one first format from a first data source (page 12, Figure 8; pages 11-14)
- Using at least one annotated schema including a universal annotated schema to convert the data into at least one second format (Figure 9)
- Depositing the first data according to at least one second format into a second data source (page 11; page 12, Figure 8)

Xedi fails to specifically disclose the method of:

- Retrieving second data according to at least one such second format from the second data source
- Using at least the universal annotated schema to convert the second data to at least one such first format

However, Extol discloses:

- Retrieving second data according to at least one such second format from the second data source (pages 18-19)

- Using at least the universal annotated schema to convert the second data to at least one such first format (pages 18-19)

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to have combined Xedi's method with Extol's method, since it would have allowed for data to be passed between two vendors.

As per dependent claim 76, Xedi further discloses the method wherein each schema describes a structure of a target format and each annotation relates to a structure of a source format, so that each annotated schema guarantees that the retrieving steps create data that conforms to the target format without additional checking (page 13, paragraph 2: Here, the translator that facilitates conversion between X12 EDI and XML generates documents compliant with the standards).

As per dependent claims 77 –79, the applicant discloses the limitations similar to those in claim 76, and the same rejection is incorporated herein.

10. Claims 3, 9,15, 21, 27, 33, 50, 61, and 72 remain rejected under 35 U.S.C. 103(a) as being unpatentable over Xedi and Extol and further in view of Kotok (XML and EDI Lessons Learned and Baggage to Leave Behind, 1999).

As per dependent claim 3, Xedi discloses the limitations similar to those in claim 1, and the same rejection is incorporated herein. Xedi fails to specifically disclose the method wherein the first electronic format comprises at least one value pair. Kotok discloses the method wherein the first electronic format comprises at least one value pair (page 5, paragraph 4: Here, the DTD contains sets of elements and attributes in tag

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form, this is equivalent to value pairs. Further, the names that are used as tags and the element relationship or transaction form a pair of values, name and relationship/transaction).

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to have combined Xedi's method of retrieving data in an electronic format with Kotok's method of data containing value pairs, since it would have allowed a user to validate the structure of the document (Kotok: page 5, paragraph 4).

As per dependent claim 9, Xedi discloses the limitations similar to those in claim 1, and the same rejection is incorporated herein. Xedi fails to specifically disclose the method wherein the at least one type of data source comprises heterogeneous databases. Kotok discloses the method wherein the at least one type of data source comprises heterogeneous databases (page 3, paragraph 1: Here, the EDI X12 standard referenced in Xedi, is modeled on a relational database. This database is able to contain data formats consistent with the EDI X12 standard. This makes the database a heterogeneous database).

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to have combined Xedi's method of data retrieval with Kotok's method of using a database, since the X12 standard described in Xedi is reliant upon a database.

As per dependent claim 15, the applicant discloses the limitations similar to those in claim 3. Claim 15 is thusly rejected under Xedi and Kotok.

As per dependent claim 21, the applicant discloses the limitations similar to those in claim 9. Claim 21 is thusly rejected under Xedi and Kotok.

As per dependent claim 27, the applicant discloses the limitations similar to those in claim 3. Claim 27 is thusly rejected under Xedi and Kotok.

As per dependent claim 33, the applicant discloses the limitations similar to those in claim 9. Claim 33 is thusly rejected under Xedi and Kotok.

As per dependent claim 50, Xedi discloses the limitation similar to those in claim 49, and the same rejection is incorporated herein. Xedi further discloses:

- The universal annotated schema comprising a universal annotated DTD (page 11, last paragraph)
- The first local format comprises an XML document or at least one value pair (page 11)
- The local annotated schema comprises a local annotated DTD or local annotated table (page 11)

Xedi fails to specifically disclose the method wherein the second local format comprises multiple relational databases. Kotok discloses the method wherein the second local format comprises multiple relational databases (page 3, paragraph 1; page 5, paragraph 3: In the first section Kotok discloses a relational database. In the second section, Kotok discloses the ability of XML to reference data in repositories. A repository is well known in the art as a place where multiple databases or files are located (<http://en.wikipedia.org/wiki/Repository>)).

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It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to have combined Xedi's method of data retrieval with Kotok's method of using a database, since the X12 standard described in Xedi is reliant upon a database.

As per dependent claim 61, the applicant discloses the limitations similar to those in claim 50. Claim 61 is thusly rejected under Xedi and Kotok.

As per dependent claim 72, the applicant discloses the limitations similar to those in claim 50. Claim 72 is thusly rejected under Xedi and Kotok.

11. Claims 6, 18, 30, 40-41, and 43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Xedi in further view of Extol, Inc. ("XML: To Be Or Not To Be?" hereafter Extol).

As per dependent claim 6, Xedi and Extol disclose the limitations similar to those in claim 1, and the same rejection is incorporated herein. Xedi further discloses the method wherein the first schema comprises at least one first DTD and the second schema comprises at least one second DTD (page 10, paragraphs 1-2). While Xedi fails to specifically disclose using these DTDs in conjunction with annotated schemas for retrieving data (page 12, Figures 8-9; pages 11-14). It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to have combined Xedi's use of DTDs in conjunction with Xedi's annotated schemas, since it would have allowed a user to save time because one annotated DTD could be used for all document transactions (page 10, paragraph 2).

As per dependent claim 18, the applicant discloses the limitations similar to those in claim 6. Claim 18 is thusly rejected under Xedi.

As per dependent claim 30, the applicant discloses the limitations similar to those in claim 6. Claim 30 is thusly rejected under Xedi.

As per dependent claim 40, Xedi discloses the medium of claim 39, wherein the universal DTD with recursive constructs (page 10; Figure 9: Here, Xedi discloses the use of an annotated DTD (labeled XEDI in Figure 9). The applicant further admits in the remarks filed 7 March 2005 that "recursive DTD structures are a normal part of DTD grammar (page 28, paragraph 2)). While Xedi fails to specifically disclose using these DTDs in conjunction with annotated schemas for retrieving data (page 12, Figures 8-9; pages 11-14). It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to have combined Xedi's use of DTDs in conjunction with Xedi's annotated schemas, since it would have allowed a user to use one annotated DTD for all document transactions (page 10, paragraph 2).

As per dependent claim 41, Xedi discloses the medium wherein the universal DTD (page 10, paragraphs 1-2) attaches unique labels to corresponding intermediate XML document or value pairs (Figure 9; pages 12-13, Converting EDI and XML). While Xedi fails to specifically disclose using these DTDs in conjunction with annotated schemas for retrieving data (page 12, Figures 8-9; pages 11-14). It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to have combined Xedi's use of DTDs in conjunction with Xedi's annotated schemas, since it

would have allowed a user to use one annotated DTD for all document transactions (page 10, paragraph 2).

As per dependent claim 43, the applicant discloses the limitations similar to those in claim 6. Claim 43 is thusly rejected under Xedi.

12. Claims 10-11, 22-23, and 34-35 remain rejected under 35 U.S.C. 103(a) as being unpatentable over Xedi and Extol in further in view of Rein (XML '99: Quotes from the Conference Floor, 1999).

As per dependent claim 10, Xedi discloses the limitations similar to those in claim 1, and the same rejection is incorporated herein. Xedi further discloses creating internal representation relating the second format to the at least one type of data source (page 11- 14). Xedi fails to specifically disclose the method further comprising using a GUI tool. Rein discloses the method further comprising using a GUI tool ( page 3, paragraph 2).

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to have combined Xedi's method of relating the format to a data source with Rein's method of using a GUI tool, since it would have allowed a user to visually select the format.

As per dependent claim 11, Xedi and Rein disclose the limitations similar to those in claim 10, and the same rejection is incorporated herein. Rein further discloses the method wherein the GUI tool can systematically organize a template from combining

and merging (page 3, paragraph 2: Here, several templates are combined, including ASP, JavaScript, and CGI).

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to have combined Xedi and Rein's method of using a GUI with Rein's method of creating templates through a GUI, since it would have allowed a user to create hybrid applications using code libraries (Rein: page 3, paragraph 2).

As per dependent claim 22, the applicant discloses the limitations similar to those in claim 10. Claim 22 is thusly rejected under Xedi and Rein.

As per dependent claim 23, the applicant discloses the limitations similar to those in claim 11. Claim 23 is thusly rejected under Xedi and Rein.

As per dependent claim 34, the applicant discloses the limitations similar to those in claim 10. Claim 34 is thusly rejected under Xedi and Rein.

As per dependent claim 35, the applicant discloses the limitations similar to those in claim 11. Claim 35 is thusly rejected under Xedi and Rein.

13. Claims 45-47, 56-58, and 67-69 remain rejected and claims 80-82 are rejected under 35 U.S.C. 103(a) as being unpatentable over Xedi and Extol and further in view of Abjanic et al. (US 2003/0069975, 2003).

As per dependent claim 45, Xedi discloses the limitations similar to those in claim 42, and the same rejection is incorporated herein. Xedi fails to specifically disclose the method wherein the operations further comprise determining whether the annotated schema is reversible in view of the specification for deposit. Extol disclose reversibility

(pages 18-19: Here, Extol discloses a transformation of EDI-to-XML and the reverse transformation of XML-to-EDI). Abjanic discloses the method of determining whether reversibility (paragraphs 85-86 and 98: Here, it is determined whether the current format of the data is compliant with the destination application. If the data is not compliant with a data type understood by the destination application, than a transformation is applied to the data to make it compliant).

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to have combined Xedi's method with Extol's method since it would have allowed large and small vendors to supply each other with data based upon a standard (Xedi: page 12, final paragraph). Further, it would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to have combined Xedi and Extol's method with Abjanic's method, since it would have allowed a user to save computational time by only reversing data if necessary.

As per dependent claim 46, Xedi, Extol, and Abjanic disclose the limitations similar to those in claim 45, and the same rejection is incorporated herein. Extol further discloses, creating a revised annotated schema that is reversible, so that the data is depositable in accordance with the revised annotated schema (pages 18-19).

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to have combined Xedi, Extol, and Abjanic's method with Extol's method, since it would have allowed a user to store data in a format that would be able to be processed locally.

As per dependent claim 47, Xedi, Extol, and Abjanic disclose the limitations similar to those in claim 46, and the same rejection is incorporated herein. Xedi further discloses depositing the data in accordance with annotations of the annotated schema (pages 11-114). Xedi further discloses the use of an annotated schema in conjunction with a DTD to convert between EDI and XML (Figure 9; page 10, paragraph 2). Extol specifically discloses conversion of EDI-to-XML and XML-to-EDI, and the use of DTD by XML to describe document structure (pages 9 and 18-19).

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to have combined Xedi, Extol, and Abjanic's method with Extol's method, since it would have allowed a user to store data in a format that would be able to be processed locally.

As per dependent claim 56, the applicant discloses the limitations similar to those in claim 45. Claim 56 is thusly rejected under Xedi and Abjanic.

As per dependent claim 57, the applicant discloses the limitations similar to those in claim 46. Claim 57 is thusly rejected under Xedi and Abjanic.

As per dependent claim 58, the applicant discloses the limitations similar to those in claim 47. Claim 58 is thusly rejected under Xedi and Abjanic.

As per dependent claim 67, the applicant discloses the limitations similar to those in claim 45. Claim 67 is thusly rejected under Xedi and Abjanic.

As per dependent claim 68, the applicant discloses the limitations similar to those in claim 46. Claim 68 is thusly rejected under Xedi and Abjanic.

As per dependent claim 69, the applicant discloses the limitations similar to those in claim 47. Claim 69 is thusly rejected under Xedi and Abjanic.

As per dependent claim 80, Xedi discloses the method wherein the annotated schema is determined to be usable for both retrieval and deposit (page 13; Figure 9: Here, documents in either X12 EDI or XML can be converted to the other document format).

As per dependent claims 81-82, the applicant discloses the limitations similar to those in claim 80. Claims 81-82 are similarly rejected.

14. Claims 48, 59, and 70 remain rejected under 35 U.S.C. 103(a) as being unpatentable over Xedi and Extol and further in view of Building Oracle and XML Applications (2000, hereafter Oracle).

As per dependent claim 48, Xedi discloses the limitations similar to those in claim 42, and the same rejection is disclosed herein. Xedi fails to specifically disclose the method wherein the operation further comprise propagating the deposit to a join union of the specification. Oracle discloses the method wherein the operation further comprise propagating the deposit to a join union of the specification (pages 2-4: Here, an Oracle join query is used to obtain data. This data is then used to generate an XML document).

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to have combined Xedi's method with Oracle's method, since it would have allowed a user to create an XML document from a query.

As per dependent claim 59, the applicant discloses the limitations similar to those in claim 48. Claim 59 is thusly rejected under Xedi and Malerba.

As per dependent claim 70, the applicant discloses the limitations similar to those in claim 48. Claim 70 is thusly rejected under Xedi and Malerba.

15. Claims 51, 62, and 73 remain rejected under 35 U.S.C. 103(a) as being unpatentable over Xedi in further view of Extol, Abjanic, and Oracle.

As per dependent claim 51, Xedi discloses the limitations similar to those in claim 42, and the same rejection is incorporated herein. Xedi further discloses:

- The processing includes:
  - First processing the specification in accordance with a universal annotated schema adapted to all document types supported by a given industrial electronic document specification language, in order to convert the specification into a first local format ((page 10, last paragraph; pages 12-13, Converting EDI and XML)
  - Second processing the first local format in accordance with the revised annotated schema to convert the first local format to a second local format (page 12, Figure 8; pages 11-14)

Xedi fails to specifically disclose:

- The operations further comprise:
  - Determining whether the annotated schema is reversible in view of the specification for deposit

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- Responsive to a determination that the annotated schema is not so reversible, creating a revised annotated schema according to which the specification for deposit is reversible
- Depositing includes propagating the deposit to a join union of the specification

However, Extol and Abjanic discloses:

- The operations further comprise:
  - Determining whether the annotated schema is reversible in view of the specification for deposit (Abjanic: paragraphs 85-86; paragraph 98)
  - Responsive to a determination that the annotated schema is not so reversible, creating a revised annotated schema according to which the specification for deposit is reversible (Extol: pages 18-19)

Further, Oracle discloses:

- Depositing includes propagating the deposit to a join union of the specification (pages 2-4)

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to have combined Xedi, Extol, and Abjanic's method with Oracle's method since it would have allowed a user to easily generate an EDI X12 compliant document from a query.

As per dependent claim 62, the applicant discloses the limitations similar to those in claim 51. Claim 62 is thusly rejected under Xedi, Abjanic, and Oracle.

As per dependent claim 73, the applicant discloses the limitations similar to those in claim 51. Claim 73 is thusly rejected under Xedi, Abjanic, and Oracle.

16. Claims 52, 63, and 74 remain rejected under 35 U.S.C. 103(a) as being unpatentable over Xedi, Extol, Abjanic, and Oracle in further view of Kotok.

As per dependent claim 52, Xedi, Extol, Abjanic, and Oracle disclose the limitation similar to those in claim 51, and the same rejection is incorporated herein. Xedi further discloses:

- The universal annotated schema comprising a universal annotated DTD (page 11, last paragraph)
- The first local format comprises an XML document or at least one value pair (page 11)
- The local annotated schema comprises a local annotated DTD or local annotated table (page 11)

Xedi, Extol, Abjanic, and Oracle fail to specifically disclose the method wherein the second local format comprises multiple relational databases. Kotok discloses the method wherein the second local format comprises multiple relational databases (page 3, paragraph 1)

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to have combined , Xedi, Extol, Abjanic, and Oracle's method with Kotok's method of using a database, since the X12 standard is reliant upon a database.

As per dependent claim 63, the applicant discloses the limitations similar to those in claim 52. Claim 63 is thusly rejected under Xedi, Abjanic, Oracle, and Kotok.

As per dependent claim 74, the applicant discloses the limitations similar to those in claim 52. Claim 74 is thusly rejected under Xedi, Abjanic, Oracle, and Kotok.

***Allowable Subject Matter***

17. Claims 12, 24, and 36 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Response to Arguments***

18. Applicant's arguments filed 6 September 2005, with respect to claims 1, 13, 25, 42, 49, 53, and 64, have been fully considered but they are not persuasive.

The applicant argues that the Examiner appears to ignore the definition of schema as defined within the specification (page 20). The examiner respectfully disagrees. The applicant defines a schema as describing the structures and types for data or documents (specification: page 6). As the examiner asserted, X12 and EDIFACT appear to satisfy this definition of a schema (Extol: page 6, paragraph 2; Xedi: page 13, paragraph 1). Further, the examiner directs the applicant's attention to the cited reference "ANSI X12" which discloses information about the ANSI X12 standard. Each transaction set of the standard contains data segments and data elements (ANSI: page 4, paragraph 1). "By definition, a data segment must begin with a segment identifier followed by one or more data elements and ending with a segment termination (ANSI: page 4, paragraph 1)." This appears to meet the applicant's definition of

schema, as the standard describes the structures (beginning with a segment identifier, data, and ending with segment termination) and types of data for documents (price, size, or product code (ANSI: page 4, paragraph 1)). With respect to “annotation” as defined by the applicant, an annotation furnishes mapping functions that connect data from heterogeneous data sources to target data sources. Xedi discloses use of a translator using the X12 dictionary to convert from the ANSI X12 EDI format to XML (page 13, paragraph 1). Further, as Xedi discloses both ANSI X12 EDI and the annotation that furnishes mappings between EDI and XML, Xedi appears to disclose an annotated schema.

Applicant's arguments with respect to claim 37 has been fully considered but they are not persuasive.

As disclosed above, the EDI/ XML translator of Xedi, using the EDI data dictionary, acts as an annotated schema. Xedi's use of the X12 data dictionary to transform messages to/from X12 EDI to/from XML appears to teach a universal schema (Figure 9). All X12 EDI data and XML data is passed through this universal dictionary in order to transform the data.

Applicant's arguments with respect to claim 75 has been fully considered but they are not persuasive.

The applicant argues that Xedi fails to disclose using a universal annotated schema for conversion to both the first and second format. However, Xedi discloses a universal annotated schema as discussed with respect to claims 1 and 37 above.

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Further, Xedi discloses conversion to both a first and second format, with one format being X12 EDI and the other format being XML (Figure 9).

Applicant's arguments with respect to claims 4, 8, 16, 20, 28, and 32 have been fully considered but they are not persuasive.

The applicant argues that Xedi fails to disclose the same type of software engine being applied to at least one type of data source and then to the first electronic format.

The examiner respectfully disagrees. Xedi teaches the intermediate XEDI translator translating data to/from X12 EDI to/from XML (page 13).

Applicant's arguments with respect to claims 7, 19, and 31 have been fully considered but they are not persuasive.

The applicant argues that Xedi fails to disclose an annotated schema. As disclosed with respect to claim 1, Xedi teaches an annotated schema.

Applicant's arguments with respect to claims 45-47, 56-58, and 67-69 have been fully considered but they are not persuasive.

The applicant argues that Extol fails to disclose a reversible annotated schema. The applicant agrees with this assessment. However, the examiner does not rely upon Extol to teach this limitation. The examiner, as described above, relies upon Xedi to disclose a universal annotated schema. Extol is merely relied upon to teach reversibility (pages 18-19). It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to have combined Xedi's teaching of universal annotated schema with Extol's teaching of reversibility, since it would have allowed a user to

reduce cost and time of reworking previously existing applications and interfaces to modern applications and interfaces (Extol: page 18).

Further, the applicant acknowledges that Abjanic converts between two formats and reverses the transformation (page 27).

Applicant's arguments with respect to claims 50, 61, and 72 have been fully considered but they are not persuasive.

The applicant argues that the examiner fails to disclose multiple relational databases. The examiner respectfully disagrees. Kotok clearly states that the EDI X12 standard is modeled on a relational database (page 3, paragraph 1). Kotok also discloses data objects can be stored in repositories (page 5, paragraph 3). As previously shown, a repository is well known in the art as a place where multiple databases or files are located (<http://en.wikipedia.org/wiki/Repository>). Kotok therefore teaches the use of multiple relational repositories (page 3, paragraph 1; page 5, paragraph 3).

19. Applicant's arguments with respect to claims 45-47, 56-58, and 67-69 under 35 U.S.C. 112 have been fully considered but they are not persuasive.

The applicant argues that the "Examiner is asking Applicants to narrow their claims under the guise of an indefiniteness rejection. The art does not justify narrowing the claims. Applicants are entitled to draft their claims sufficiently broadly to cover more than one embodiment (page 20)." While the examiner acknowledges the applicant's entitlement to draft the claims sufficiently broad to cover more than one embodiment, 35

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U.S.C. 112, paragraph 2 requires the applicant draft claims, "particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention." The term "reversible" renders claims 45-47, 56-58, and 67-69 as indefinite, because the applicant has not distinctly claimed the subject matter with the applicant regards as the invention. In light of the remarks filed 7 March 2005, the applicant's attempt to define "reversible" has created an ambiguity as to what the applicant's claimed subject matter covers. This ambiguity renders the claim indefinite.

20. Applicant's arguments with respect to claim 41 have been fully considered but they are not persuasive.

The applicant's remarks with regards to a DTD have been considered and are persuasive. A new rejection has been submitted to address this limitation of the claim. However, the applicant's argument with respect to attaching unique labels or corresponding intermediate XML documents or value pairs (pages 25-26) has been considered but is not persuasive. Xedi discloses converting X12 EDI data into an intermediate XML document, which may have an XSL style sheet applied to transform the XML document (page 13). It was notoriously well known in the art at the time of the applicant's invention that XML contained value pairs. The W3C specification of the XML language has been attached as a reference considered but not cited to demonstrate use of value pairs within XML.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kyle R. Stork whose telephone number is (571) 272-4130. The examiner can normally be reached on Monday-Friday (8:00-4:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Hong can be reached on (571) 272-4124. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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